

Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

AMERICAN JOURNAL OF BOTANY

OFFICIAL PUBLICATION OF THE BOTANICAL SOCIETY OF AMERICA

CONTENTS

PETER J. KLAPHAAK and H. H. BARTLETT 446

Growth of some parasitic fungi in synthetic culture media. H. C. Young and C. W. Bennett 459

PUBLISHED

IN COOPERATION WITH THE BOTANICAL SOCIETY OF AMERICA

BY THE

BROOKLYN BOTANIC GARDEN

AT 41 NORTH QU'EN STREET, LANCASTER, PA.

LONDON AGENTS

WHELDON AND WESLEY, LTD.

28 ESSEX STREET, STRAND, LONDON, W. C. 2

AMERICAN JOURNAL OF BOTANY

DEVOTED TO ALL BRANCHES OF BOTANICAL SCIENCE

ESTABLISHED 1914

EDITED BY A COMMITTEE OF THE BOTANICAL SOCIETY OF AMERICA

EDITORIAL COMMITTEE

C. E. Allen, Editor-in-Chief, University of Wisconsin

WILLIAM CROCKER, The Thompson Institute For Plant Research, Inc.

C. STUART GAGER, Business Manager Brooklyn Botanic Garden

R. A. HARPER,

Columbia University

H. H. BARTLETT,
University of Michigan

Arthur H. Graves,

Brooklyn Botanic Garden

I. F. LEWIS, University of Virginia

C. L. SHEAR, Bureau of Plant Industry (Representing American Phytopathological Society)

The Journal is published monthly, except during August and September. Subscription price, \$6.00 a year. Postage to Canada, 20 cents; to other foreign countries (except Mexico and Cuba) 40 cents a volume on annual subscriptions. Single copies 75 cents. Back numbers, 75 cents each; \$7.00 a volume, post free.

The pages of the Journal are open to members of the Botanical Society of America, or to candidates approved for membership.

Manuscript offered for publication should be typewritten, and should in all cases be submitted to the Editor-in-Chief.

Papers are limited to 20 pages in length, exclusive of plates, except that additional pages may be arranged for at cost rate to authors (approximately \$4.00 a page).

Proofs should be corrected immediately on receipt, and returned to American Journal of Botany, Brooklyn Botanic Garden, Brooklyn, N. Y.

Illustrations, other than zinc etchings, and tabular matter should, in general, be restricted to approximately ten percent of the number of pages of text. Authors may be charged at cost rates for illustrations and tabular matter in excess of that amount (approximately \$6.40 a page for tabular matter; 15 cents per square inch for half-tones).

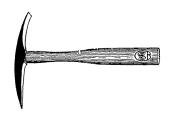
Separates should be ordered when proof is returned. Fifty copies without cover will be supplied free; cover and additional copies at cost.

Remittances should be made payable to American Journal of Botany. Ten cents must be added to all checks not drawn on New York City banks.

Claims for missing numbers should be made within 30 days following their date of mailing. The publishers will supply missing numbers free only when they have been lost in the mails.

Correspondence concerning editorial matters should be addressed to Prof. C. E. Allen, University of Wisconsin, Madison, Wisconsin.

Business correspondence, including notice of change of address, and directions concerning reprints, should be addressed to American Journal of Botany, Brooklyn Botanic Garden, Brooklyn, N. Y., or The New Era Printing Co., Inc., Lancaster, Pa.



The Cambridge Field Pick No. 10-J-7

This popular pick will be shipped, prepaid, to any address in the United States on receipt of \$3.50.

Here's a Pick

that's built for business!

FOR digging, barking, root cutting and, in emergencies, for wood cutting, the Cambridge Field Pick is the botanist's favorite tool.

This pick, designed by an experienced collector, is constructed to stand use and abuse, to endure through years of strenuous service.

Its sturdy blade, with $1\frac{1}{2}$ -inch chopping edge and French bayonet point is forged from the keenest cutting tool steel. Each head is tempered separately, and is guaranteed to be free from flaws and softness. The stout, 12-inch handle of straight grained hard wood is fashioned to give perfect "balance" to the tool.

CAMBRIDGE BOTANICAL SUPPLY COMPANY

Laboratory Equipment for All Sciences WAVERLEY, MASS., U. S. A.

Send for complete, illustrated catalog of BIOLOGICAL EQUIPMENT

Service Prompt—Quality Guaranteed

FOR THE BIOLOGICAL SCIENCES

Microscope Preparations for courses in botany and zoology.

Preserved and Display Material.

Lantern Slides (plain and colored) for lectures in botany and zoology.

Plant Presses. Vascula, and Herbarium Accessories.

Botanical and Zoological Charts.

Microscopes, Microtomes, and Accessories.

Dissecting Sets and Instruments.

Laboratory Glassware and Chemicals.

Blank Slides and Cover Glasses of best quality.

Our new catalog No. 6 will be sent upon request.

Write us for quotations.

NEW YORK BIOLOGICAL SUPPLY CO.

271 WEST 125th STREET

NEW YORK, N. Y.

An Adjustable Clinostat

and

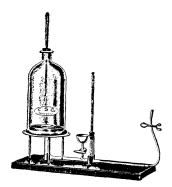
A Universal Potometer

for

Plant Physiology Investigations



No. 10608.



No. 10636.

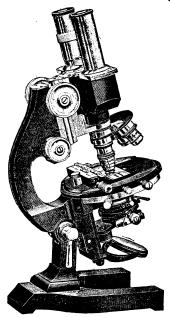
U.J.A.

10636. POTOMETER, Universal, for investigating the effect of varying conditions of the atmosphere about the plant upon its transpiration rate. The plant is placed under the bell jar which is supported on an elevated brass plate shaped to form a tank in which water or hot sand may be placed. An opening is provided in the center of the plate to which a glass tube provided with a reservoir, thermometer well and ending in a small diameter capillary tube graduated to 0.01 cc, is attached. The bell jar is provided with a tubulature for the insertion of thermometers or introduction of gases. Complete with bell jar, two thermometers, and pinch clamp, mounted on a polished wood base......\$14.50

CENTRAL SCIENTIFIC COMPANY

LADORATORY CUPPLIE /
Apparatur Chicago.

New Leitz Combination Microscope Stand "ABM"



Microscope "ABM" with Binocular Body Tube attached.

The latest Research Model for Binocular and Monocular Vision

Features:—

- I. In general design it is similar to our large Research Stand "AA."
- 2. Binocular—and Monocular Body Tubes can be very easily body tube. interchanged and attached by eccentrically acting lever-clamp.

Monocular tube interchangeable with Binocular

- 3. The Nosepiece adapter is mounted independent of the tubes; objectives remain permanently centered, irrespective of which tube is used.
- 4. With the Binocular Body Tube attached the stand is in every respect equal to our "Mon-Objective Binocular" Microscope.
- 5. With the Monocular Body Tube attached it is identical to our Research Stand "AA," available for Photomicrography.

With this achievement Leitz has scored another success as originator of new microscope models of the "Leitz Quality of optical and mechanical workmanship." "Leitz Quality" is beyond comparison, it is accepted as "Subreme."

The Leitz Works have recently overstepped the two hundred thousand mark in production of microscopes. This record is one no other microscope manufacturer has scored. As a matter of interest it is to be mentioned that the two hundred thousandth microscope has been presented to Professor Heidenhain of the Department of Anatomy, University of Tuebingen. In this connection it is well to mention that the Leitz Works have presented the one hundred and fifty thousandth microscope to Professor Paul Ehrlich and the one hundred thousandth microscope to Professor Robert Koch.

Pamphlet No. Z-1022 will be forwarded upon request.







GENETICS

Published by the

Brooklyn Botanic Garden

Beginning with Volume VII, 1922

Subscription \$6 a year.

Bi-Monthly

Foreign postage: To Canada, 25 cents; to other countries, 50 cents

Address all business communications to

GENETICS

Brooklyn Botanic Garden,

Brooklyn, N. Y., U. S. A.

ECOLOGY

Devoted to All Forms of Life in Relation to Environment Established, 1920. Quarterly

OFFICIAL PUBLICATION OF THE

ECOLOGICAL SOCIETY OF AMERICA

Subscription, \$3 a year.

Back Volumes, \$3.50, post free.

Foreign postage: To Canada, 10 cents; to other countries, 20 cents.

TEN PER CENT, DISCOUNT

on Volumes One and Two will be offered to all institutions placing a subscription on the "till forbidden" basis. This offer holds good only when the order is placed with Business Manager direct, and not through an agency.

All business correspondence should be addressed to

ECOLOGY

Brooklyn Botanic Garden Brooklyn, N. Y., U. S. A.

Spencer Supremacy

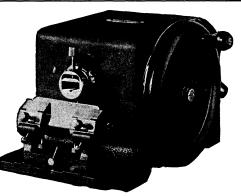
In Microtome Building

Is Shown in

Rotary Microtome No. 820

The only Rotary Microtome ever built with an incline-plane feed.

It completely overcomes the inaccuracies usually encountered in other Rotary Microtomes, due to the up-and-down movement of the object.



Spencer Rotary Microtome No. 820, \$180.00 complete with knife-

In this microtome the feed and the movement are entirely independent.

ITS SUPREMACY

has gained for it an international reputation for perfection. It is in use in every important laboratory in America and in leading laboratories throughout the world.

Prompt Deliveries



SPENCER LENS COMPANY

Manufacturers Microscopes, Microtomes, Delineascopes, BUFFALO, N. Y.



American Journal of Botany

BACK NUMBERS WANTED

The American Journal of Botany will pay Six Dollars for Volume II, complete.

Will also pay 75 cents each for the following odd numbers: Vol. II, Nos. 1-10; Vol. IV, Nos. 1, 4, 5; Vol. V, Nos. 1, 3; Vol. VII, Nos. 1, 2, 3, 4.

Address

AMERICAN JOURNAL OF BOTANY
Brooklyn Botanic Garden
BROOKLYN, N. Y.

GREATISE VISION THE POWER OPTICAL SCIENCE EAUSCH EAUSCH EIOME

Bausch & Lomb Binocular Microscope FSE



Binocular Microscope, FSE Price, \$175.00

A new simplified model of parallel tube type binocular microscope, for single objectives, offered at a price much lower than has previously been possible.

It has all the adjustment usually found in a laboratory microscope—side fine adjustment of lever type, coarse adjustment by diagonal rack and pinion, substage with Abbe condenser focused by a quick-acting screw, and pillar provided with inclination joint.

Eyepiece tubes are adjustable for interpupillary distance by means of a compound slide. One tube has spiral adjustment for focusing to correct any difference in vision existing between the two eyes.

Tube length is fixed at 160 mm, always giving the right distance between eyepieces and objectives.

In use, the FSE eliminates eyestrain, causes more detail to appear, and provides binocular vision.

PRICE, FSE 8, Abbe condenser, 1.20 circular nosepiece, paired eyepieces, 5X and 10X and objectives 16 mm, 4 mm and 1.9 mm 1.25 oil. \$175.00.

Bausch & Lomb Optical ©.

NEW YORK WASHINGTON CHICAGO SAN FRANCISCO LONDON ROCHESTER. N.Y.

Makers of Photographic Lenses, Microscopes, Projection Apparatus (Balopticons),
Ophthalmic Lenses and Instruments, Photomicrographic Apparatus, Range
Finders and Gun Sights for Army and Navy, Searchlight Reflectors,
Stereo-Prism Binoculars, Magnifiers and Other High-Grade
Optical Products.